1   [000212]   ABSTRACT OF THE DISCLOSURE

2   [000213]   A wireless communication receiver (20) comprises a joint searcher and
3   channel estimator (24) which provides a channel estimate which can take into
4   consideration a doppler shift occasioned, e.g., by relative movement of a transmitter
5   and the receiver or movement of a signal path-affecting object.   In providing the
6   channel estimate, the joint searcher and channel estimator essentially concurrently
7   considers plural signals received by an antenna element of an array (22), the plural
8   signals being obtained from a series of successive sets of pilot data as detected by the
9   antenna element.   The time of arrival and the channel coefficient are essentially
10   concurrently determined by the joint searcher and channel estimator. The joint searcher
11   and channel estimator applies the channel coefficient and the time of arrival to a
12   detector which provides, e.g., a symbol estimate.   The joint searcher and channel
13   estimator is a two dimensional unit, with a first dimension being referenced by a time
14   index of the sampling window employed for each of the sets of pilot data (i.e., a
15   sampling window time index) and a second dimension being a temporal dimension
16   imparted by the time interval reflected by the successive sets of pilot data.   The
17   temporal joint searcher and channel estimator may take differing embodiments and
18   have differing implementations. In one example, illustrative embodiment the temporal
19   joint searcher and channel estimator includes a non-parametric type correlator (e.g., a
20   correlator which performs a Fast Fourier Transform (FFT) calculation).   In another
21   example, illustrative embodiment the temporal joint searcher and channel estimator
22   utilizes a parametric approach.